

Patent Claims

1. A gas measuring device with noise compensation having a gas sensor (1) for generating a measurement signal (S1) dependent upon gas concentration and which includes a noise component, characterized in that the gas sensor (1) has connected downstream thereof a high pass filter (13) with an adjustable limiting frequency and whereby the limiting frequency is predeterminable by means of a selector unit as a function of the noise component.

2. The gas measuring device according to patent claim 1 characterized in that a low pass filter (5) is provided which is connected between the evaluating unit and the gas sensor (1).

3. The gas measuring device according to patent claim 2 characterized in that a computing unit (6) is connected between the evaluating unit and the low pass filter (5) and is provided for calculating the pitch (S') of the filter output signal (S5) arising from the low pass filter 5.

4. The gas measuring device according to patent claim 1, 2 or 3, characterized in that the selector unit at its output side is connected with a control input (13.1) of the high pass filter (13) and is so configured that with it, based upon the pitch (S') of the filter output signal (S5) a value can be selected with which the limiting frequency of the high pass filter 13 is adjustable.

5 5. The gas measuring device according to one of the patent claims 1 to 4 characterized in that the selector unit is so configured that with it a first filter value can be predetermined when the difference between the sensor value and a set point exceeds a limiting value, so that a second filter value is predetermined when the difference between the sensor value and the set point value lies within a certain range, and a third filter value is predetermined when the sensor value corresponds to the setpoint value.

10 6. The gas measuring device according to patent claim 5 characterizing in that the first second and third filter values are time constants (TH).

15 7. The gas measuring device according to one of claims 1 to 6, characterized in that the high pass filter (13) has a comparator (3) connected downstream thereof.

 8. The gas measuring device according to one of patent claims 1 to 7, characterized in that the gas sensor (1) is an SnO₂ gas sensor.

20 9. The gas sensor according to one of patent claims 1 to 8, characterized in that the gas sensor (1) is so configured that nitrogen oxide is measurable therewith.

10. A method of gas measurement with noise compensation, whereby a measurement signal (S1) dependent upon gas concentration is produced by a gas sensor (1), the measurement signal (S1) can include a noise component, characterized in that the measurement
5 signal (S1) is filtered by means of a high pass filter (13) with an adjustable limiting frequency, whereby the limiting frequency is selectable by a selector unit as a function of the noise component.